

WHAT IS CLAIMED IS:

1. A back light device comprising:

a light source;

a lightconductor in a substantial plate form comprising a front face, a back face and side end faces, light radiated from the light source and made incident on the one of the side end faces being outputted as diffused light from the front face as a light outputting surface;

at least one light diffusing sheet for receiving, on its face, the diffused light outputted from the light outputting surface of the lightconductor, and outputting, from the light outputting surface opposite to the face, shifting the maximum intensity direction of the diffused light toward the direction of the normal standing on the light outputting surface, and outputting the diffused light;

a polarized beam splitting sheet which can receive the light from the light outputting surface of the light diffusing sheet, through which one polarized light component of the light is transmitted, and on which the other polarized light component is reflected; and

a light reflecting sheet which is arranged on the back face of the lightconductor and is for reflecting the light into the lightconductor.

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2. A back light device according to claim 1, wherein the polarized beam splitting sheet is a laminated body having 3 or more layers wherein the layers adjacent to each other in its thickness direction have different refractive indexes; and one of incident P and S polarized light beams are transmitted through the sheet and the other is reflected on the sheet, thereby splitting both of the polarized light beams.

3. A back light device according to claim 1, wherein the polarized beam splitting sheet includes a circularly polarized light selecting layer comprising a cholesteric liquid crystal layer, and a 1/4 phase differentiation layer; and by means of the cholesteric liquid crystal layer incident light is splitted into one circularly polarized light component along one rotation direction and the other circularly polarized light component along the reverse rotation direction.

4. A back light device according to claim 1, wherein the polarized beam splitting sheet has a planar laminated structure having three or more layers each of which has double refraction; and the difference in the refractive index between the layers adjacent to each other along its thickness direction for one of two light beams having vibration directions perpendicular to each other in a plane is different from the difference in the

refractive index between the layers adjacent to each other along its thickness direction for the other of the two light beams.

5. A back light device according to claim 1, wherein the light diffusing sheet is composed of a light-transmissive material wherein its light outputting surface is rougher than its light receiving surface.

6. A liquid crystal display apparatus comprising a back light device, a liquid crystal panel arranged at the light outputting surface side of the polarized beam splitting sheet of the back light device, and the back light device comprising a light source a lightconductor in a substantial plate form comprising a front face, a back face and side end faces, light radiated from the light source and made incident on the one of the end side faces being outputted as diffused light from the front face as a light outputting surface, at least one light diffusing sheet for receiving, on its face, the diffused light outputted from the light outputting surface of the lightconductor, and outputting, from the light outputting surface opposite to the face, shifting the maximum intensity direction of the diffused light toward the direction of the normal standing on the light outputting surface, and outputting the diffused light a polarized beam splitting sheet which can receive the

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light from the light outputting surface of the light diffusing sheet, through which one polarized light component of the light is transmitted, and on which the other polarized light component is reflected, and a light reflecting sheet which is arranged on the back face of the lightconductor and is for reflecting the light into the lightconductor.

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7. A liquid crystal display apparatus according to claim 6, wherein the polarized beam splitting sheet is a laminated body having 3 or more layers wherein the layers adjacent to each other in its thickness direction have different refractive indexes; and one of incident P and S polarized light beams are transmitted through the sheet and the other is reflected on the sheet, thereby splitting both of the polarized light beams.

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8. A liquid crystal display apparatus according to claim 6, wherein the polarized beam splitting sheet includes a circularly polarized light selecting layer comprising a cholesteric liquid crystal layer, and a 1/4 phase differentiation layer; and by means of the cholesteric liquid crystal layer incident light is splitted into one circularly polarized light component along one rotation direction and the other circularly polarized light component along the reverse rotation direction.

9. A liquid crystal display apparatus according to claim 6, wherein the polarized beam splitting sheet has a planar laminated structure having three or more layers each of which has double refraction; and the difference in the refractive index between the layers adjacent to each other along its thickness direction for one of two light beams having vibration directions perpendicular to each other in a plane is different from the difference in the refractive index between the layers adjacent to each other along its thickness direction for the other of the two light beams.

10. A liquid crystal display apparatus according to claim 6, wherein the light diffusing sheet is composed of a light-transmissive material wherein its light outputting surface is rougher than its light receiving surface.